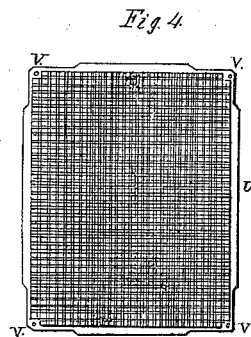
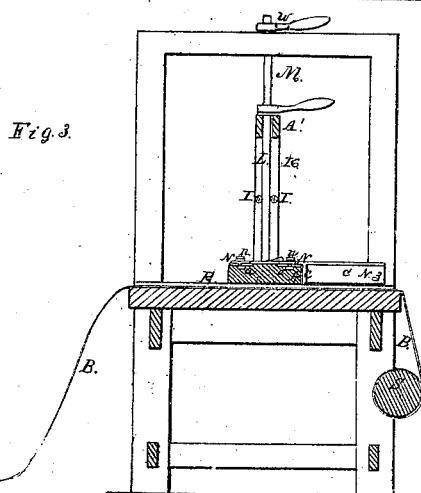
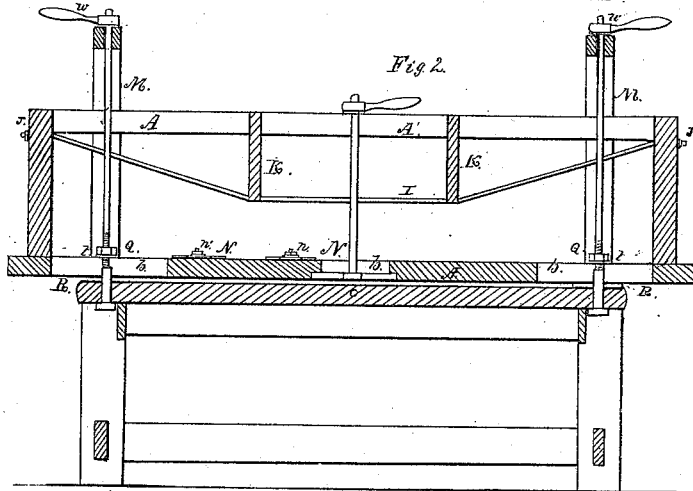
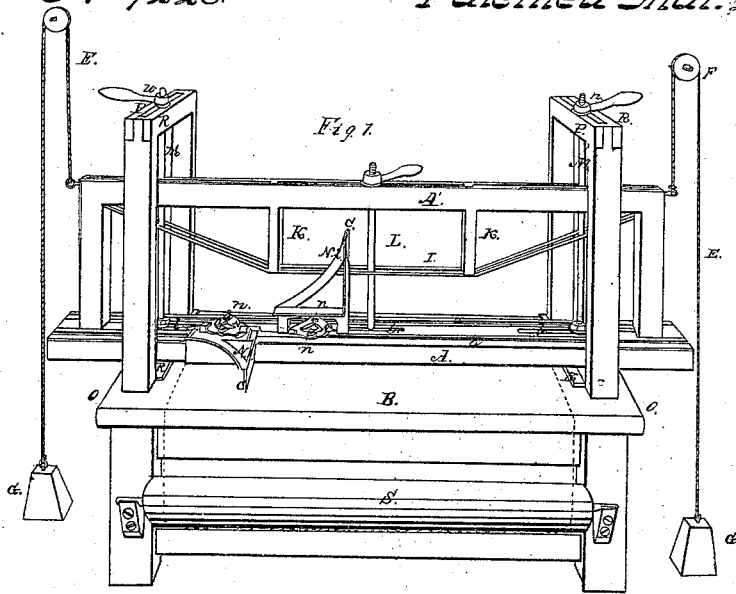


N.B. Powers.
Printing Oil Cloths.

N^o 7228.

Patented Mar. 26, 1850.



UNITED STATES PATENT OFFICE.

NATHL. B. POWERS, OF LANSINGBURG, NEW YORK.

PRINTING FLOOR OIL-CLOTH.

Specification of Letters Patent No. 7,228, dated March 26, 1850; Antedated September 26, 1849.

To all whom it may concern:

Be it known that I, NATHANIEL B. POWERS, of the town of Lansingburg, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in the Method of Block-Printing Oil-Cloths for Floors and other Purposes, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1, is a perspective view of the combination of mechanism by which the operation of block printing the colors is greatly facilitated and improved. Fig. 2, is a vertical longitudinal section of the machine through the center of same. Fig. 3, is a vertical transverse section through the center. Fig. 4, is a plan of one of the printing blocks,—inverted, showing the raised or printing surfaces.

Similar letters in the several figures refer to like parts.

The manner of block printing floor oil cloths by hand without a fixed gage against which to rest the blocks while stamping the colors as practiced in oil cloth manufactories not only causes the printing to be performed slowly, but inaccurately requiring persons well skilled and of an accurate eye to manage the printing blocks; as the only gage the operator has is the central line drawn on the cloth at the beginning of the operation and the impressions made by the four metallic points or pins, at the four corners of the rectangular printing blocks to preserve the parallelism of the longitudinal and transverse lines. The least deviation in the position of the printing block, which is very liable to take place, even with the most accurate and careful operator, when printing expeditiously, will cause the inaccuracy of lines to increase as the work progresses, until error becomes so palpable as to injure the appearance of the work materially. Another source of error arises from the difficulty of perfectly following the marks previously left by the ordinary pitch pins of the block in laying on the first color, which errors, when they do occur, injure the appearance of the cloth by causing the colors to mix or lap over each other.

My invention and improvement is intended to remove the possibility of the occurrence of such errors and to enable the operator to perform such work with accuracy and dispatch, whether he be skilled or un-

skilled in the business of oil cloth printing; and I effect these ends by the employment of a suspended adjustable transverse gage A placed above the cloth B to be printed and at right angles with its edges, having combined therewith a number of adjustable hinged stops C arranged at right angles with the face of the gage A, and parallel with the edges of the cloth, against which stops, and the gage, the two sides of the rectangular printing block D, are brought at every operation of stamping an impression on the cloth, so that at the termination of the operation of printing a continuous piece of cloth of any given width, all the parallel lines of the figures will coincide exactly, and the cloth will have the appearance of having been printed at a single operation.

The suspended gage consists of a rectangular frame A of any required length and breadth, according to the width of the cloth to be printed. If the cloth should be 24 feet wide the length of the gage should be about 30 feet, and of proportionate width and strength. This gage is suspended to the ends of cords, or chains, E, passed over pulleys F turning on axles let into the frame of the building in any convenient position above, having attached to the opposite ends of said cords or chains weights G for balancing the frame. The upper horizontal timber of this frame is prevented from sagging in the middle by a chain or suspension rod I passed through the vertical or side timbers of the frame near their upper ends and fastened thereto by screws and nuts J. Upon which chain or rod rest vertical posts K mortised and tenanted into the aforesaid upper horizontal timber. By turning the nuts J the chain or rod I will be tightened and the horizontal timber A raised at the middle, so that it can be brought to a horizontal line whenever it is found to be out of level, which will sometimes occur when long gages are used for wider cloths. The lower timber A, which constitutes the gage, is made broader than the upper timber, and is suspended to the upper timber by a suspension rod L, having a flat head on its lower end and a nut on its upper end—the head being against the under side of the gage beam or in a recess therein and the nut upon the top of the upper beam, so that by turning this nut the gage may be brought level whenever it is found that the middle

is below the horizontal line of the ends. The upper timber A' may be slit longitudinally to admit the vertical hanging screw rods M and central rod, L, or be composed of two narrow parallel timbers placed edge-wise and so far apart as to have a space between them to receive the rods.

The lower horizontal timber or gage contains two parallel grooves *a a* and oblong mortises *b b b* in the middle to admit the vertical rods M M and a suspension rod L the two side grooves are to receive the heads of bolts extending down from parallel slides N to which the stops *c* are hinged. The rods M are passed through slits in the table O, or top of the frame, and extend up through the oblong mortises *b* in the suspended gage A, and thence up through and between horizontal timbers P fixed to the heads of the posts of the frame which are extended vertically upward above the table *o* to a sufficient height. The lower ends of these rods are provided with broad flat heads that rest against the under side or bottom of the table. The upper ends have screws and nuts on them, the latter resting upon the horizontal stationary timbers P. The lower portions of the rods which pass through the table and gage are made of larger size than the upper portions and have screw threads cut in them above said larger portions on which units Q are screwed that bear down against washers or plates *t* that rest upon the gage timber. Parallel blocks or ways R are placed upon the table near each end. The gages A rests upon these blocks or ways during the operation of printing. The last named screw nuts Q are for the purpose of clamping the gage firmly upon these ways. The nuts *v* on the upper ends of the rods M are for securing the said rods M to the timbers P and also for fixing the rods at any required position or distance from the edge of the table. The rods M also serve to guide the gage A in its movements.

The frame, table, or platform O upon which the printing is performed and the roller or cloth beam S around which the cloth is wound, before being printed, are made and arranged in the usual manner. The gage is generally suspended about half an inch above the oil cloth during the operation of printing. The printing blocks U are made in the usual manner, with pitch pins V at the angle of the usual construction.

The operation of printing the cloth is performed in the following manner. The cloth B to be printed being previously prepared and wound upon the roller is unwound and carried horizontally over the table O. The gage is then let down upon the blocks or ways R and secured by the nuts Q. The stops C (being in a vertical position) and the slides N are properly adjusted in the grooves *a* and made secure by the nuts and

screws *n* and the printing block charged with coloring matter, the stop C No. 1, is brought down to a horizontal position at right angles to the gage, and the block is brought against the gage and stop and pressed down upon the cloth and an impression made. It is then removed and recharged with color and brought against the gage and the stop No. 2 which is previously let down to a horizontal position. In this manner the operation is continued across the entire width of the cloth. The nuts Q are then loosened and the gage with its stops raised above the cloth to a sufficient height to be out of the way of the cloth touching it whilst being drawn forward. The cloth is then drawn forward the width of the printing block. The gage is then brought down upon the rests or ways R and properly adjusted and made fast by the nuts Q, and the operation repeated, as before; and in this manner the printing is carried on until the whole piece of cloth is printed. The slits or oblong mortise, *b* in the gage admit of its being moved longitudinally or vertically over the rods M. The slits in the table and upper horizontal timbers allow of the rods being moved in the direction of the movement of the cloth. The parallel grooves *a* in the gage allow of a proper adjustment of the stops. These grooves are lined on either side with parallel metallic plates to prevent the grooves from wearing. The stops may be made in the manner above described, or in any suitable way; and may form a right angle with the gage, or not, as preferred, in either position they will answer as guides for a correct execution of the work.

I do not claim printing oil floor cloths by means of printing blocks made with pitch pins by hand on a gage line as this is the usual mode of printing, but,

What I do claim as my invention and desire to secure by Letters Patent is—

The employment of the before described combination of the gage A and stops, C, constructed, arranged, and operated in the manner and for the purpose above set forth for guiding the printing block without the use of pitch pins during the operation of stamping the colors on the cloth, by which the work is rendered much more accurate and is executed with greater dispatch, and is not so liable to become blurred during the operation of handling the blocks nor of having the colors to overlap by a misplacement of the blocks.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

N. B. POWERS.

Witnesses:

JOHN HARTT,
J. RANSOM.